

## REMARKS/ARGUMENTS

Claims 1-12 are currently pending. In light of the following, all of the claims are in condition for allowance. If after considering this response the Examiner believes that not all of the claims are allowable, the Examiner is requested to schedule a telephone interview with the Applicant's attorney to further the prosecution of this application.

### **Rejection of claims 1 and 3-12 under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Waffenschmidt et al. (US 6,529,363)**

#### **Claim 1**

Claim 1 recites a mode-switching transformer comprising a first line in common mode and a second line in differential mode, wherein the common mode line is connected in series with a capacitor to lower a central frequency of a bandwidth of the transformer.

For example, referring, e.g., to FIG. 3 and paragraphs 26-30 of the present application, a mode-switching transformer 10 comprises a first line (sections 5' and 6') in common mode and a second line (sections 7' and 8' and junction point 9) in differential mode, wherein the common mode line is connected in series with a capacitor C. Because the capacitor C is specifically used to lower the central frequency of the bandwidth of the transformer, the sections 5', 6', 7', 8' may be sized for higher operating frequencies. As a result, the sections 5', 6', 7', 8' may be shorter in length, and thus, the size of the transformer and the insertion losses may be reduced.

Waffenschmidt, on the other hand, does not teach a mode-switching transformer comprising a first line in common mode and a second line in differential mode, wherein the common mode line is connected in series with a capacitor to lower a central frequency of a bandwidth of the transformer. Instead, Waffenschmidt simply teaches a switched-mode power supply having a capacitor in a transformer 16 (FIG. 3). This switched-mode power supply, however, is entirely different from a mode-switching transformer. A switched-mode power supply aims at switching a DC power supply to pass through an isolation barrier made by a transformer. In contrast, a mode-switching

transformer aims at converting a common mode signal into a differential mode signal without any switch. Because the switched-mode power supply of Waffenschmidt is not even in the same field as the mode-switching transformer of the present application, it follows that Waffenschmidt does not suggest lowering the central frequency of the bandwidth of the transformer with the capacitor. Furthermore, Waffenschmidt does not even suggest a transformer having common mode windings and differential mode windings. In fact, after reviewing Waffenschmidt in its entirety, the Applicant's attorney is unable to find any mention of a mode-switching transformer, let alone lowering the central frequency of the transformer with a capacitor.

The Examiner states on page 2 of the office action that Waffenschmidt teaches using a capacitor in series with a winding structure for the purpose of lowering the central frequency of the transformer. However, there is no mention whatsoever in Waffenschmidt of adding a capacitor in series with a winding structure for the express purpose of lowering the central frequency of the transformer. Not only is the Applicant's attorney unable to find any such language in Waffenschmidt, but the Examiner is also unable to point out any such language in Waffenschmidt in the office action.

Furthermore, attached is a Declaration pursuant to 37 C.F.R. § 1.132 traversing this rejection by way of evidence from a technical expert. Please note that the technical expert was unavailable to sign the Declaration under 37 C.F.R. § 1.132. An original Declaration under 37 C.F.R. § 1.132 including the technical expert's signature will be filed shortly.

Therefore, not only is there no motivation to combine the teachings of Waffenschmidt with the Applicant's admitted prior art (AAPA), but the combination would not even lead to the invention as recited in claim 1.

### **Claim 7**

Claim 7 recites a mode-switching transformer comprising a differential mode winding electromagnetically coupled with a common mode winding, and only one capacitor electrically coupled to the common-mode winding.

Claim 7 is patentable for reasons similar to those recited above in support of the patentability of claim 1. As discussed above, Waffenschmidt simply teaches a switched-mode power supply having a capacitor in a transformer. After reviewing Waffenschmidt in its entirety, the Applicant's attorney is unable to find any mention of a mode-switching transformer, let alone a capacitor coupled to the common mode winding. Therefore, not only is there no motivation to combine the teachings of Waffenschmidt with the Applicant's admitted prior art (AAPA), but the combination would not even lead to the invention as recited in claim 7.

### **Claims 3-6 and 8-12**

Claims 3-6 and 8-12 are patentable by virtue of their respective dependencies from independent claims 1 and 7.

## CONCLUSION

In view of the foregoing, claims 1-12 are in condition for allowance, and that action is respectfully requested.

In the event additional fees are due as a result of this amendment, you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

If, after considering this response, the Examiner does not agree that all of the claims are allowable, then it is respectfully requested that the Examiner contact the Applicant's attorney at (425) 455-5575.

Respectfully submitted,

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